Duke's & Orr's Dry Dock Pump House

The last complete dry dock steam pumping machinery in Australia

The pumping plant for de-watering the reconstructed dry dock was installed in 1901-1904 and has been preserved in this Pump House. At the time of its installation it was claimed to be the largest centrifugal pumping installation in the southern hemisphere and capable of pumping out the dock in about one hour.

The steam engines, pumps and boilers were built by Robison Brothers of South Melbourne. Their factory was located a few hundred metres away in Normanby Road.

The key elements of the plant are:

- the **boilers** are a pair of a coal fuelled, under-fired, multi-tubular type which supplied saturated steam at a pressure 120 psi (830 kPa); and
- the two vertical, tandem compound, non-condensing **steam engines** with their high and low pressure cylinders, one above the other (seen below, through the window, above the operating deck);
- the two **pumps**, which are of the centrifugal type, direct-coupled on each end of the engine crankshaft and arranged to draw water from a tunnel linked to the dock and discharge it back to the river.

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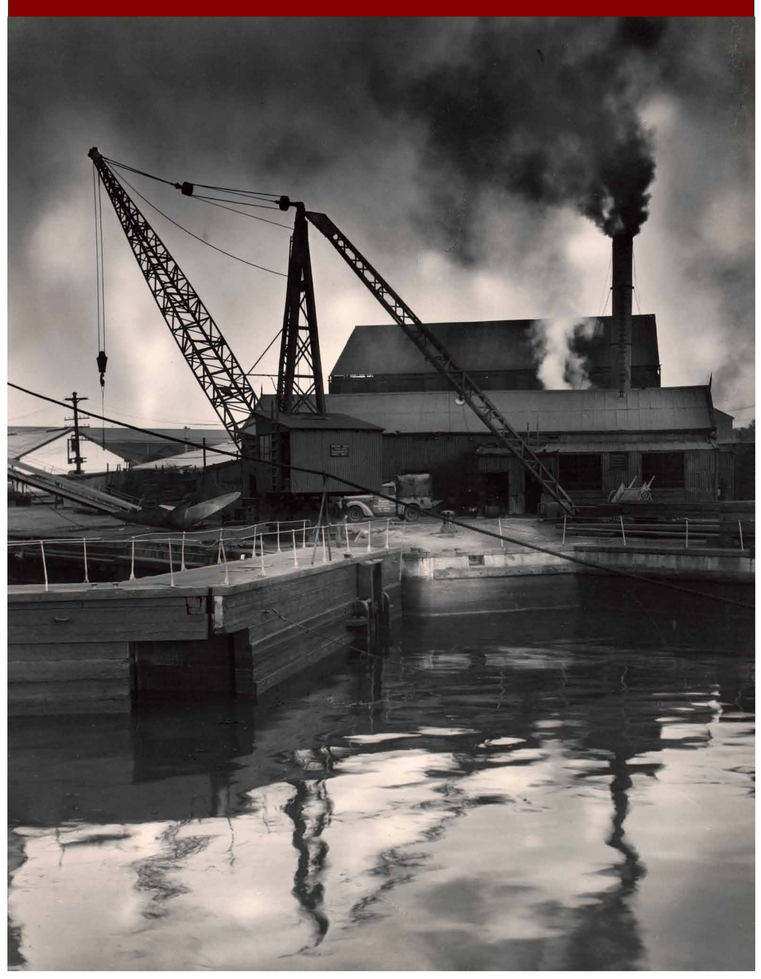
TOP: Top of boiler drums showing main steam stop valve and safety valve.

TOP SECOND: Engine high-pressure and low pressure cylinders.

TOP THIRD: Power transmission – piston rod to crankshaft.

ABOVE: East centrifugal pump with west pump in background.

BELOW: Entrance to Duke's Dock with mitre gates closed and pumps in action, around 1947. Pictures Collection, State Library of Victoria.



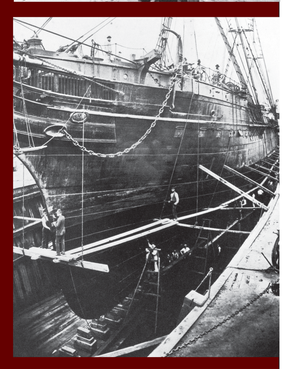
All in a Day's Work

Groups of workers (mostly casuals) were employed to work on various jobs all over the ship.

Fitters checked and repaired underwater fittings and valves. Dockies secured and cleaned the ship. Riggers constructed all the staging for work areas. Shipwrights were the ship builders and repairers. An engineer ran the pump house. A fireman looked after the boiler. And the Marine Superintendent coordinated the repairs and maintenance for the shipping company after the ship was docked by the Dockmaster.

Ships came into the dry dock for all sorts of repairs, however the most common job was the regular 'haircut and shave', where the ship's hull was scraped clean of barnacles and other marine growth and repainted. Sometimes more extensive work may have been undertaken, such as repairing or replacing damaged hull plates, rudders or propellors.

Most of the men who worked on the docks lived in the neighbouring working class suburbs of South Melbourne, Port Melbourne and Albert Park. From 1916, unions were influential in the workers dealings with the dock owners and the owners dealings with the Melbourne Harbour Trust.



TOP: Workers at Duke's Dry Dock during its 1902/03 rebuild. Duke's & Orr's Dry Dock by Arthur E. Woodley and Bob Botterill (Melbourne Maritime Museum, 1985)

TOP MIDDLE: Ellora *in Duke's Dock for cleaning and painting in 1876. Duke's & Orr's Dry Dock by Arthur E. Woodley and Bob Botterill (Melbourne Maritime Museum, 1985)*

ABOVE: Scraping the bottom of Lake Torrens in 1971. Duke's & Orr's Dry Dock by Arthur E. Woodley and Bob Botterill (Melbourne Maritime Museum, 1985).

BELOW: Dockworkers (from Hillier, 1981). Courtesy Alex Rizkalla.